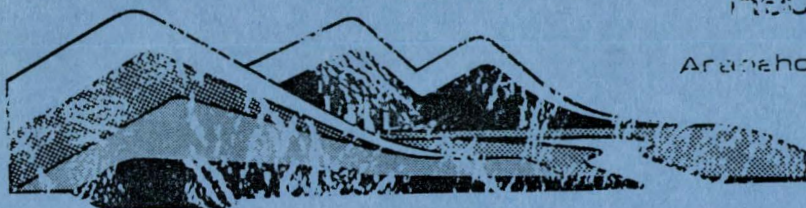
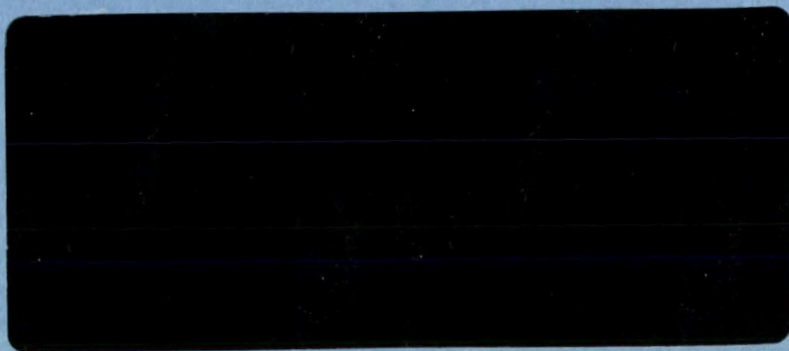


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## Recreation Management

Arapaho & Roosevelt National Forests



AN ANALYSIS TECHNIQUE FOR  
CAMPGROUND MANAGEMENT  
THROUGH LINEAR PROGRAMMING

by

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## ABSTRACT

Linear programming in an integer mode can be an effective mathematical technique for determining an optimum combination of a mix of campground management practices. The methodology draws upon work done in the evaluation of concessionaire operation of campgrounds on the Arapaho and Roosevelt National Forests. This, in addition to traditional full or reduced service management, a closure program, and charging user fees under the Land and Water Conservation Fund Act are modeled to provide an optimal value between costs of management and returns on fees collected.



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## PREFACE

This research project conducted by the author from October 1981 through February 1982 on An Analysis Technique for Campground Management Through Linear Programming is being submitted for satisfaction of the requirements for Professional Development Program for Outdoor Recreation Management, Clemson University Short Course, Clemson, South Carolina.

The emphasis of this project is a recommendatory model for which a standardized software package be built. Data taken directly from RIM Facility Condition Records along with the recreation manager's constraints provided as input to this model can give him valuable assistance in making decisions for campground management.

I am greatly indebted to John Horn, Operations Research Analyst for the Rocky Mountain Region, who developed the program matrix and gave me considerable amounts of his time, knowledge, and assistance in completing this project.



## CHAPTER I

### INTRODUCTION AND STATEMENT OF THE PROBLEM

#### PROBLEM

Meeting developed camping recreation demands in an atmosphere of shrinking budgets is creating a new challenge to National Forest recreation managers. The array of full or reduced service management, closing some campgrounds, charging user fees in others, and considering some campgrounds for management by concessionaires; all with differing costs and returns poses a variety of management choices to the manager. Thus, it is essential for the recreation manager to be able to answer the question, "How to achieve the best mix of available campground management practices to reduce operating costs on all campgrounds and maximize user fee returns from charge campgrounds?"

Knowledge of campground management practices that provide optimal value between costs of management and returns on fees collected can help one with such matters as program development and budgeting and determining management strategies that conform to these budgets. This need led to a technique for the analysis of management combinations on the Arapaho and Roosevelt National Forests.



## SETTING

The Forest contains over 1.4 million acres of short-grass prairie, montane forest, subalpine forest, and alpine tundra. The Arapaho and Roosevelt National Forests lie in northern Colorado with the Continental Divide and the Front Range of the Rocky Mountains forming the rugged backbone for most of the Forest's land base.

The Colorado Front Range is experiencing one of the nation's highest population rate increases, and its population centers parallel the length of the Forest. This population corridor contains slightly less than two million residents, which creates a tremendous demand for recreation on the Forest.

Recreation is perhaps the major use of the Arapaho and Roosevelt National Forests. An estimated 5.8 million recreation visits in 1981 rank the Forest fifth in the National Forest System in total recreation use.

The Forest's 1,358 developed camp units provide approximately 881.1 thousand recreation visitor days use. Because most recreation use occurs on weekends in camp sites on this Forest, use generally exceeds design capacity on weekends and holidays. Weekday use is significantly below capacity except in popular sites in the Arapaho National Recreation Area.



The Forest has traditionally offered developed camping opportunities and resultant services free or at a cost set so low that only a very small part of administrative costs were recovered. Campground user fees were maintained at \$2.00 per camp unit per day from 1967 through 1980, a 14-year period. This attitude may be attributed to the belief that since the campgrounds are on public lands and were constructed through tax dollars that management costs must be subsidized.

Organizationally, the Forest Service has not encouraged private sector management of government owned campground facilities through provisions of the Granger-Thye Act of April 24, 1950. Forest Service Manual 2721.41 states, "Large well-developed campgrounds and picnic grounds may be operated on a charge basis by a permittee when this results in the best service to the public. However, policy is to discourage full permittee management."

These barriers to management options and culturally ingrained attitudes toward public subsidy of all recreation opportunities have limited the Forest's ability to manage campgrounds at optimum levels of costs and returns.

Management philosophies are currently undergoing change from one of large subsidy to that in which users of the campgrounds should help pay more of the direct costs of providing that service.

Recreation budgets are not high enough to meet all demands placed upon



the Forest's campgrounds. Funds are reduced from a year ago, and preliminary planning advice indicates even fewer dollars will be available for Fiscal Year 1983. These reductions are a result of the Administration's efforts to control public spending and eliminate Federal deficit.

In light of reducing budgets, current policy is being altered to accommodate users paying more of the cost for use of campgrounds and to encourage concessionaire management of government campground facilities.

To better analyze the campground management practices, the single purpose of this study was to develop a tool for providing an optimum mix of campground units being supplied at various costs and returns in fees.

#### HYPOTHESIS

It is anticipated that a linear program in an integer mode can be used as a decisionmaking aid with an objective function to minimize cost and with a series of constraints that limit attainment of various decision variables.



## CHAPTER II

### REVIEW OF LITERATURE

Management of campgrounds by a variety of methods, each with differing costs, potential returns, investments in new facilities, and constrained by limited budgets compounds the decisionmaking activity requested of Forest recreation managers. This quick review of the problem statement, along with the hypothesis, indicates the need to focus the literature review in four subject areas. These are linear programs, fee systems, operating costs, and concessionaire management.

#### LINEAR PROGRAMS

Analysis of multi-faceted problems contains more variables than an individual is readily capable of solving without the aid of sophisticated mathematical techniques. Linear programming is a powerful mathematical tool that can be used to analyze variables in terms of providing optimal values of the objective function, subject to certain constraints.

Linear programming was first used in the early 1960's to allocate National Forest resources on the Ruidoso Ranger District (now the Smokey Bear District of the Lincoln National Forest) Gray and Anderson (1964). Though these first efforts were primitive by today's standards, the



applicability of using linear programs for analysis of resource allocation was evident.

Recent emphasis in the use of linear program models has been in Forest planning activities for multiple use allocation of resources and for forest regulation and scheduling of timber harvest. Several of the better known models are FORPLAN (FORest PLAN), a resource allocation model using a matrix generator with a report writer, and MUSYC (Multiple Use Sustained Yield Calculation), a timber model also using a matrix generator and report writer. A somewhat older program, TIMBRAM (TIMBer Resource Allocation Model), used for forest regulation and harvest scheduling, was described by Navou (N.D.).

Linear programs have a number of recreation management applications and have been used successfully to analyze problems all the way from rationing capacity as a means to relieve congestion to models analyzing potential of adding additional facilities. Price (1981) described an analysis of whether designating additional facilities relieved congested conditions or merely created and attracted extra demand. Saitta and Schmedemann (1972) detailed a linear programming model that portrayed the number of additional facilities that could be built under varying budgets of capital investments and maintenance costs.



## FEE SYSTEM

A strong case has been presented for charging user fees in campgrounds and for other recreation activities where special facilities have been provided. Memmel (1966) suggested that fees should be charged to participants that are engaged in activities which involve exclusive use of facilities or which require construction of specialized equipment. However, philosophical questions come up when the discussion turns to services and facilities that have been provided by government agencies. This is particularly true when these facilities have been traditionally offered free of charge or at prices set so low that the recreation opportunity is almost totally subsidized.

There are two related trends that indicate the future of user fee policies. First, tax dollars are limited, and this results in smaller recreation budgets. And second, participants should support the cost of their activities rather than all taxpayers. USDI Heritage Conservation and Recreation Service (1979). Solbroa, Miller, and Buenther (1956) recommended that fees be charged for recreation activities but should not be set so high as to be restrictive. Neither did they suggest that fees provide for a self-supporting program. Gibbs (1980) concluded that campgrounds in Region 6 were not profitable now, but changing policies and management practices might alter the situation.

The Forest Service is authorized to charge user fees by the Land and Water Conservation Fund Act of 1965. Section 4(b) of the Act



establishes designation criteria that campgrounds must meet in order to qualify as a fee site. Those criteria are "...tent or trailer spaces, drinking water, access road, refuse containers, toilet facilities, personal collection of the fee by an employee or agent of the Federal agency operating the facility, reasonable visitor protection, and simple devices for containing a campfire..."

Forest Service implementation of the recreation user fee program at campgrounds adheres to guidelines which state sites must meet the designation criteria, ensures that comparable fees are charged, information campaigns will be conducted to encourage voluntary compliance, compliance will be checked against occupied or unoccupied units, and self-service methods will be used in collecting fees.

In establishing rates for campground user fees, Forest Service Manual 2331.24d indicates that it is not intended to recover total program costs but allow the visitor to share in the cost of operation and maintenance of the site. MacCleery (1981) amplified this direction by stating that users should pay more of the direct costs and fees should be expanded to cover some of the replacement costs of the facility. Specific direction in the developed recreation element for the Fiscal Year 1983 Program Budget calls for setting fees to recover 80 percent of the operating cost at those sites (Rupp 10/20/81).

Recreation user fees are becoming an important consideration in regard to budgets. Crowell (1981) stated that Forest Service recreation



budgets may be reduced because the system operates at a net loss. Rupp (11/17/81) pronounced a Regional policy where recreation fund allocations will be distributed in amounts equal to L&WCF collections. This action has the potential of increasing some Forests' allocations and decreasing others.

#### OPERATING COSTS

Gibbs and van Hees (1980) studied average operation and maintenance costs in 111 campgrounds in Region 6. Costs they portrayed, updated to 1981, for experience levels 3 and 4, conform closely with costs shown in block B of Form 2300-6 RIM Facility Condition Record for administration and cleanup costs for campgrounds in reduced and full service levels on this Forest.

#### CONCESSIONAIRE MANAGEMENT

Concessionaire operation of campgrounds as a management alternative is being considered as an integral part of the process being studied.

Concessionaire operation of government owned facilities is authorized by the Granger-Thye Act of 1950. Section 7 of this Act is specific to this authorization as follows:

"Sec. 7. The Secretary of Agriculture, under such regulations as he may prescribe and at rates and for periods



not exceeding thirty years as determined by him, is hereby authorized to permit the use by public and private agencies, corporations, firms, associations, or individuals, of structures or improvements under the administrative control of the Forest Service and land used in connection therewith:

Provided, That as all or a part of the consideration for permits issued under this section, the Secretary may require the permittees at their expense to recondition and maintain the structures and land to a satisfactory standard. (16 U.S.C. 580d)"

The Forest Service has not readily encourage permittee operation of Federally owned campground facilities through the provisions of the Granger-Thye Act. Forest Service Manual 2721.41 indicates they may be operated through the provisions of this act but discourages full permittee management. Gray (1954) favored operation of facilities with park personnel rather than leasing them out for concessionaire management. His opinion is based upon the experience of working with concessionaires who did not have the same feeling of obligation for service to the visiting public as agency employees did. Smith (1964) suggests that there is a place for concessionaire operations if the primary reason is to get special experience and training that a concessionaire can bring to the operation. He also noted that concession operations might be a very expensive way to buy administration. It would appear that there is only reluctant agreement for concessionaire management of public facilities.



Pederson (1981) portrayed a process to analyze the potential for concessionaire operation of campgrounds on the Deschutes National Forest in Oregon. His analysis revealed that 22 campgrounds grouped into five composites appeared to be potentially profitable as concession operations. The composites were formed to create large enough number of individual camp units to affect profitability. He suggests 100 units as the minimum size of operation. Lund (1981) summarized the findings of seven other studies pertaining to the optimum size of campgrounds. All studies except one recommended campgrounds larger than 100 units.



## CHAPTER III

### PROCEDURES

#### DECISION VARIABLES

All campgrounds on the Arapaho and Roosevelt National Forests were included in the assessment to determine the best mix of management practices to provide the optimal value between management costs and fee returns.

The decision variables for the linear program model are the campground management practices being analyzed. The six alternative practices are:

1. Forest Service Management with an L&WCF User Fee. This practice includes campgrounds that meet L&WCF designation criteria. These campgrounds are operated and maintained to the full service level of management for the period of time that fees are collected.
2. Concessionaire Operation with a User Fee. This category includes campgrounds that meet L&WCF designation criteria, having about 100 camp units, or campgrounds that can be grouped by proximity to have a total of about 100 units or more.

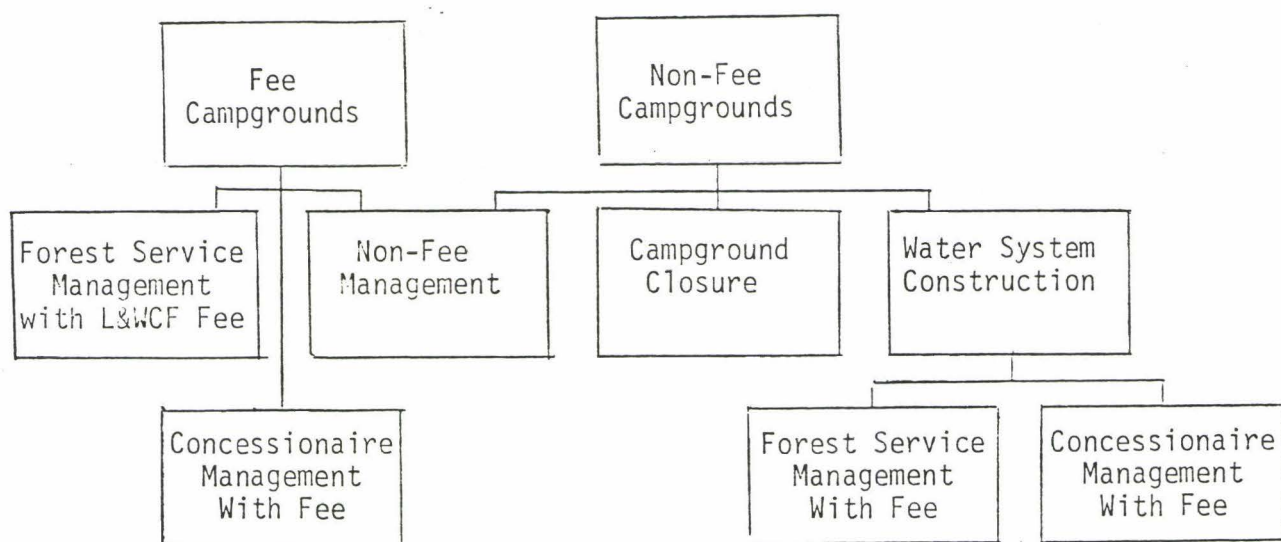


3. Campground Closure. This alternative includes campgrounds that are presently non-fee sites, have eight camp units or less, or are used less than 20 percent of theoretical capacity. (Theoretical capacity is defined as the number of camp units x 5 people x number of days in the managed season.)
4. Non-Fee Campgrounds with Forest Service Management. This practice includes all campgrounds that do not meet the designation criteria for L&WCF fee sites. These campgrounds are operated at the reduced service level of management.
5. Forest Service Management as a Fee Campground Following Water System Construction. This group would involve capital investment for a water system so that it would meet designation criteria for a fee site. The campground would then be managed at the full service level.
6. Concessionaire Operation Following Water System Construction. This category includes composites of campgrounds that have 100 camp units or more, meets designation criteria for a fee site by having water systems constructed, and is operated under permit by a concessionaire.



## CAMPGROUND STRATIFICATION

The decision variables were used to group the campgrounds. This aggregation can be diagrammatically represented as follows:



There are a total of 56 campgrounds on the Arapaho and Roosevelt National Forests that are being stratified for analysis. Of this total, 21 campgrounds, which represent 63 percent of the Forest's capacity, are presently in a fee-site category. The fee campgrounds are shown in Table 1. The remaining 35 campgrounds are presently non-fee campgrounds and are listed in Table 2.

Eighteen campgrounds meet the criteria for closure (see Table 3). All but two of the campgrounds are placed in this category based on size



TABLE 1

## Land and Water Conservation Fund Act Fee Campgrounds

<u>Campground Name</u>	<u>Number of Units</u>	<u>Fee</u>
Pawnee	69	\$5
Kelly Dahl	47	\$5
Olive Ridge	56	\$5
Mizpah	11	\$4
West Chicago Creek	15	\$4
Cold Springs	65	\$5
Echo Lake	17	\$4
Columbine	24	\$4
Mountain Park	55	\$5
Ansel Watrous	19	\$5
Sleeping Elephant	15	\$4
Kelly Flats	23	\$5
Crow Valley	5	\$4
Dowdy Lake South Shore	31	\$5
West Lake	29	\$5
Bellaire Lake	13	\$5
Dowdy Lake West Shore	24	\$5
Arapaho Bay	77	\$5
Willow Creek	35	\$5
Green Ridge	83	\$6
Stillwater	145	\$6
Total Units	858	



TABLE 2  
Non-Fee Campgrounds

<u>Campground Name</u>	<u>Number of Units</u>
Rainbow Lakes	18
Camp Dick	34
Peaceful Valley	21
Guanella Pass	9
Clear Lake	8
Tom Bennett	7
Mishawaka	3
Stove Prairie Landing	7
Upper Landing	6
Narrows Coop	12
Eggars	4
Indian Meadows	3
Big Bend	12
Tunnel	4
Buckhorn Canyon	12
Stevens Gulch	4
Chambers Lake	57
Browns Park	28
Skyline	8
Tunnel	49
Big South	4
Creedmore Lake	10
North Fork Poudre	9
Long Draw	25
Grand View	6
Aspen Glen	8
Meadow Creek	5
Tabernash	20
Byers Creek	6
Idlewild	24
Robbers Roost	9
St. Louis Creek	18
Denver Creek	22
Sawmill Gulch	5
Cutthroat Bay	20
Total Units	500



TABLE 3  
Campgrounds Meeting Closure Criteria\*

<u>Campground Name</u>	<u>Number of Units</u>
Clear Lake	8
Tom Bennett	7
Mishawaka	3
Stove Prairie Landing	7
Upper Landing	6
Narrows Coop	12
Eggars	4
Indian Meadows	3
Tunnel	4
Stevens Gulch	7
Skyline	8
Big South	4
Grandview	6
Aspen Glen	8
Meadow Creek	5
Tabernash	20
Byers Creek	6
Sawmill Gulch	5
Total Units	123

\* Closure Criteria--(1) presently a non-fee site, (2) equal to or less than eight units, (3) use equal to or less than 20 percent of theoretical capacity.



rather than a function of use. These 18 campgrounds represent only 9 percent of the Forest's people-at-one-time capacity.

The last stratification of campgrounds is that which meets the criteria for concessionaire operation. Thirteen campgrounds grouped into five composites result from application of these criteria (see Table 4).

This aggregation accounts for 48 percent of the Forest's total camping capacity, or 75 percent of present fee-site capacity. Campgrounds that would qualify as concessionaire operated sites following construction of water systems are shown in Table 5. These five campgrounds are grouped into three composites providing an additional 181 camping units considered for operation under a Granger-Thye permit. It is important to note that one campground that is presently a fee site, but not in the original grouping meeting concessionaire criteria, is added to make up the first composite on Table 5. Also, Stillwater Campground, one meeting criteria on Table 4, is added to Cutthroat Bay Campground to form a composite.

## COSTS

Costs are one of the key elements upon which decisions are being based. Two categories of costs are portrayed to interact with the modeled decision variables. Annual costs include operation and maintenance of campgrounds, with differing costs for fee and non-fee sites, and costs for administration of Granger-Thye permits on concessionaire operated campgrounds. One-time costs include capital investments in water system



TABLE 4  
CAMPGROUNDS MEETING CONCESSIONAIRE CRITERIA\*

<u>Campground Name</u>	<u>Number of Units</u>	
	<u>By Campground</u>	<u>By Composite</u>
Kelly Dahl	47	112
Cold Springs	65	
Mountain Park	55	97
Ansel Watrous	19	
Kelly Flats	23	
Dowdy Lake South Shore	31	97
Dowdy Lake West Shore	24	
West Lake	29	
Bellaire Lake	13	
Arapaho Bay	77	195
Willow Creek	35	
Green Ridge	83	
Stillwater	145	145
Total Units		646

\* Concessionaire Criteria--A campground or campgrounds grouped by proximity that have about 100 camp units or more.



TABLE 5  
CAMPGROUNDS MEETING CONCESSIONAIRE CRITERIA  
AFTER DEVELOPING WATER SYSTEMS

<u>Campground</u>	<u>Number of Units</u>	
	<u>By Campground</u>	<u>By Composite</u>
Camp Dick	34	111
Peaceful Valley	21	
Olive Ridge **	56	
Chambers Lake	57	106
Tunnel	49	
Cutthroat Bay	20	165
Stillwater **	145	

\*\* Campgrounds with existing water systems added to make an economic composite.



construction, campground rehabilitation costs, and cost of closing sites (see Appendix I).

Operation and maintenance costs can be derived from blocks B and C of RIM Facility Condition Record, Form 2300-6. Administration and cleanup costs from block B are added to maintenance needs in condition classes 1 and 2 from block C (see Appendix II). These costs were compared with those found by Gibbs and Van Hees (1980) in their study of campgrounds in Region 6. Administration and cleanup costs were within acceptable limits from this study and those derived for the Fiscal Year 1984 Program Budget.

Permit administration costs were estimates derived by analyzing the amount of time needed to accomplish the various tasks identified with special use permits.

One-time costs for water system construction were taken from engineering estimates. These estimates can be used to update the appropriate condition class from 3 through 7 on the RIM Facility Condition Record. Rehabilitation costs were the summation of condition classes 3 through 8 and resource treatment costs from block B. Closure costs were engineering estimates for contract removal of recreation facilities and site restoration.



## FEES

Land and Water Conservation Fund user fee returns are based upon experienced occupancy rates of 60 percent with compliance at 70 percent for the 21 fee campgrounds. This ratio is extended for potential fee sites should they undergo water system construction.

Campground composites were analyzed for potentially profitable concessionaire operations following procedures outlined by Pederson (1981). Table 6 summarizes income, Granger-Thye and land use fee, and anticipated operating income for five composites that are currently available for concessionaire operation. Table 7 illustrates data for three composites that could become concession operations following construction of water systems. Unlike the conclusion reached by Pederson, it appears that the Granger-Thye fee presents a significantly high cost that affects profitability of all but the Arapaho Bay-Willow Creek-Green Ridge composite and the Stillwater composite.

## MODEL CONSTRAINTS

An important part of shaping the mix of campground management practices is determining a set of limiting boundaries. These boundaries are the constraints that form another set of objectives that defines one decision variable from another. In the calculation of costs and returns by the linear program model, the constraints are used to identify the practice to be applied for each campground.



TABLE 6

## ANALYSIS OF EXISTING CONCESSIONAIRE CAMPGROUND COMPOSITE OPPORTUNITIES

<u>Campgrounds</u>	<u>Number Units</u>	<u>Days in Fee Season</u>	<u>Fee</u>	<u>Gross Income</u>	<u>Facility Value</u>	<u>6%G-T Fee</u>	<u>4½% Land Fee</u>	<u>Total Fees</u>	<u>Operating Income</u>
Kelly Dahl	47	119	5	\$16,220	\$174,276	\$10,456	\$730	\$11,186	
Cold Springs	65	119	5	22,430	241,020	14,461	1,009	15,470	
	<u>112</u>			<u>\$38,650</u>		<u>\$24,917</u>	<u>\$1,739</u>	<u>\$26,656</u>	\$11,994
Mountain Park	55	134	5	\$21,370	203,940	\$12,236	\$ 961	\$13,197	
Ansel Watrous	19	134	5	7,380	70,452	4,227	332	4,559	
Kelly Flats	23	134	5	8,940	85,284	5,117	402	5,519	
	<u>97</u>			<u>\$37,690</u>		<u>\$21,580</u>	<u>\$1,695</u>	<u>\$23,275</u>	\$14,415
Dowdy Lake South Shore	31	119	5	\$10,700	114,948	\$ 6,897	\$ 481	\$ 7,378	
Dowdy Lake West Shore	24	119	5	8,280	88,992	5,339	373	5,712	
West Lake	29	119	5	10,010	107,532	6,451	450	6,901	
Bellaire Lake	13	119	5	4,485	48,204	2,892	202	3,094	
	<u>97</u>			<u>\$33,475</u>		<u>\$21,579</u>	<u>\$1,506</u>	<u>\$23,085</u>	\$10,390
Arapaho Bay	77	119	5	\$26,570	285,516	\$17,131	\$1,196	\$18,327	
Willow Creek	35	119	5	12,080	129,780	7,787	544	8,331	
Green Ridge	83	119	6	38,520	307,764	18,466	1,733	20,199	
	<u>195</u>			<u>\$77,170</u>		<u>\$43,384</u>	<u>\$3,473</u>	<u>\$46,857</u>	\$30,313
Stillwater	145	119	6	\$60,050	537,660	\$32,260	\$2,702	\$34,962	\$25,088



TABLE 7

## ADDITIONAL CONCESSIONAIRE CAMPGROUND COMPOSITES GENERATED BY DEVELOPING WATER

<u>Campgrounds</u>	<u>Number Units</u>	<u>Days in Fee Season</u>	<u>Fee</u>	<u>Gross Income</u>	<u>Facility Value</u>	<u>6%G-T Fee</u>	<u>4½% Land Fee</u>	<u>Total Fees</u>	<u>Operating Income</u>
Camp Dick	34	119	5	\$11,730	\$126,072	\$ 7,564	\$528	\$8,092	
Peaceful Valley	21	119	5	7,250	77,868	4,672	326	4,998	
Olive Ridge *	56	119	5	19,325	207,648	12,459	870	13,329	
	<u>111</u>			<u>\$38,305</u>		<u>\$24,695</u>	<u>\$1,724</u>	<u>\$26,419</u>	\$11,886
Chambers Lake	57	119	5	\$19,670	211,356	\$12,681	\$ 885	\$13,566	
Tunnel	49	119	5	16,910	181,692	10,902	761	11,663	
	<u>106</u>			<u>\$36,580</u>		<u>\$23,583</u>	<u>\$1,646</u>	<u>\$25,229</u>	\$11,351
Cutthroat Bay	20	119	5	\$ 6,902	74,160	\$ 4,450	\$ 311	\$ 4,761	
Stillwater *	145	119	6	60,050	537,660	32,260	2,702	34,962	
	<u>165</u>			<u>\$66,952</u>		<u>\$36,710</u>	<u>\$3,013</u>	<u>\$39,723</u>	\$27,229

\* Campgrounds with existing water systems added to make an economic composite.



The constraints and rationale are as follows:

1. The model is to express outputs in the integer mode.

This model was purposefully built to determine the optimum value for the objective function for all campgrounds with each individual campground represented as a whole. This is mathematically represented as an integer rather than a fraction.

2. The model is divided into ten 5-year time periods.

Though this model is considered for short-term management advice to deal with annual work planning and program budgets, it is necessary to lengthen the decision horizon to 50 years so that capital investments in water systems become viable.

3. Water system construction is discounted over the 50-year period at 4 percent.

This allows capitalization of the investment in water systems considered for potential construction.

4. The budget is limited to \$478,551.

This amount conforms to preliminary advice developed for the



Fiscal Year 1983 budget.

5. Campgrounds can change from one management practice to another only once.

This action was taken to simplify the model.

6. Closure of any or all of the 18 campgrounds identified for this action can be accomplished immediately.

It is assumed to be prudent management to cut losses immediately by divestiture of small, uneconomically manageable campgrounds.

7. Three alternative time frames to accomplish rehabilitation of facilities were considered.
  - a. Twenty years as the optimum life of campground improvements.
  - b. Twenty-five years as the maximum useful life of facilities.
  - c. Thirty years represents the period after which improvements can no longer be used.



8. Rehabilitation costs will not be incurred for campgrounds considered for closure.
9. Composites formed of two or more campgrounds must be considered as a single integer.

Composites lose their income potential if all campgrounds composing them are not included.

10. Concessionaire management can be implemented on only two composites in the first time period. The two composites are the Arapaho Bay-Willow Creek-Green Ridge with a total of 195 units and the Stillwater as the second with 145 units.

These are the two composites that appear to be profitable, under current Granger-Thye Act constraints.

11. The remaining composites may be implemented during time periods 2 through 10.

The constraint is based on the assumption that there will be a legislative initiative to change the 6 percent fee in the Granger-Thye Act.

12. Water systems must be constructed in all campgrounds forming a composite before it can be considered for concessionaire



operation.

All of the campgrounds in a composite must meet designation criteria for a fee site.

13. Olive Ridge Campground must be added to Camp Dick and Peaceful Valley to form a composite.

Composites lose their income potential if all campgrounds composing them are not included.

14. Cutthroat Bay must be added with Stillwater Campground to form a composite.

This follows the same rationale as above.



## CHAPTER IV

### ANALYSIS OF DATA

A solution to management alternatives for 56 campgrounds on the Arapaho and Roosevelt National Forests was offered by the linear program matrix in FORPLAN. The mix of practices portrayed was to manage 14 campgrounds by concessionaire operation, close 18 sites, manage 15 non-fee campgrounds, construct water systems in 4 campgrounds and operate them as L&WCF fee sites, and to construct water systems in all 5 campgrounds identified for potential concessionaire operation as shown in Table 7, page 24.

Constrained budgets affect the scheduling of management practices over time, resulting in interim management during the first time period. Interim campground management calls for concessionaire operation of 5 campgrounds, 10 campgrounds managed as L&WCF fee sites, closing 14 sites, and managing 27 as non-fee campgrounds. In time period 2, 5 years hence, the remaining actions are taken to achieve terminal solution. Management practices, interim management, and time period of implementation for all campgrounds are shown on Table 8.

Allocation of the practice to construct water systems in four campgrounds during the second time period rather than reintroducing a fee system in former fee sites appears inconsistent. However, the



TABLE 8  
Campground Management Practices

<u>Campground Name</u>	<u>Current Management Practice</u>	<u>Recommended Management Practice</u>	<u>Time Period Implemented</u>	<u>Interim Management</u>
Stillwater	FS fee	Concession	1	
Cutthroat Bay	FS non-fee	Add water concession	1	
Arapaho Bay	FS fee	Concession	1	
Willow Creek	FS fee	Concession	1	
Green Ridge	FS fee	Concession	1	
Kelly Dahl	FS fee	Concession	2	FS fee
Cold Springs	FS fee	Concession	2	FS fee
Mountain Park	FS fee	Concession	2	FS fee
Ansel Watrous	FS fee	Concession	2	FS fee
Kelly Flats	FS fee	Concession	2	FS fee
Dowdy Lake South	FS fee	Concession	2	FS fee
West Lake	FS fee	Concession	2	FS fee
Bellaire Lake	FS fee	Concession	2	FS fee
Dowdy Lake West	FS fee	Concession	2	FS fee
Olive Ridge	FS fee	Concession	2	FS fee
Camp Dick	FS non-fee	Add water concession	2	FS non-fee
Peaceful Valley	FS non-fee	Add water concession	2	FS non-fee
Tunnel (R.F.)	FS non-fee	Add water concession	2	FS non-fee
Chambers Lake	FS non-fee	Add water concession	2	FS non-fee
Narrows Coop	FS non-fee	Close	1	
Tom Bennett	FS non-fee	Close	1	
Clear Lake	FS non-fee	Close	1	
Skyline	FS non-fee	Close	1	
Eggars	FS non-fee	Close	1	
Upper Landing	FS non-fee	Close	1	



Table 8 (continued)

<u>Campground Name</u>	<u>Current Management Practice</u>	<u>Recommended Management Practice</u>	<u>Time Period Implemented</u>	<u>Interim Management</u>
Stove Prairie Landing	FS non-fee	Close	1	
Tunnel (E.P.)	FS non-fee	Close	1	
Stevens Gulch	FS non-fee	Close	1	
Big South	FS non-fee	Close	1	
Byers	FS non-fee	Close	1	
Meadow Creek	FS non-fee	Close	1	
Aspen Glen	FS non-fee	Close	1	
Grand View	FS non-fee	Close	1	
Sawmill Gulch	FS non-fee	Close	2	FS non-fee
Tabernash	FS non-fee	Close	2	FS non-fee
Mishawaka	FS non-fee	Close	2	FS non-fee
Indian Meadows	FS non-fee	Close	2	FS non-fee
Idlewild	FS non-fee	FS non-fee	1	
Robbers Roost	FS non-fee	FS non-fee	1	
St. Louis Creek	FS non-fee	FS non-fee	1	
Denver Creek	FS non-fee	FS non-fee	1	
Creedmore Lake	FS non-fee	Add water FS fee	2	FS non-fee
North Fork Poudre	FS non-fee	FS non-fee	1	
Long Draw	FS non-fee	Add water FS fee	2	FS non-fee
Big Bend	FS non-fee	Add water FS fee	2	FS non-fee
Buckhorn Canyon	FS non-fee	FS non-fee	1	
Browns Park	FS non-fee	Add water FS fee	2	FS non-fee
Rainbow Lakes	FS non-fee	FS non-fee	1	
Guanella Pass	FS non-fee	FS non-fee	1	
Pawnee	FS fee	FS non-fee	1	
Mizpah	FS fee	FS non-fee	1	
West Chicago Creek	FS fee	FS non-fee	1	
Echo Lake	FS fee	FS non-fee	1	
Columbine	FS fee	FS non-fee	1	
Sleeping Elephant	FS fee	FS non-fee	1	
Crow Valley	FS fee	FS non-fee	1	



reader is reminded of the model constraint that limits campgrounds changing from one prescription to another only once. Managerial decisions would be made in these cases and extra budget in time period 2 would be used to reinstate fee systems to campgrounds that were formerly managed under this practice.

Total costs derived for each of the three rehabilitation schedules exceeded the constrained budget in the first time period. The annual budget violation ranged from \$105,859 for the 20-year to \$69,003 at the 30-year schedule.

Because of the budget violation, a second iteration of the program was developed which eliminated all rehabilitation during the first time period. This solution offered a little different mix of campground closures and several more sites managed as Forest Service fee sites as compared to practices shown in Table 8. The specific changes are to close Tabernash, Mishawaka, and Indian Meadows campgrounds in time period 1 rather than in 2 and manage Sleeping Elephant and Crow Valley as fee sites. The program went out of integer mode for West Chicago Creek Campground and allocated two-thirds to a fee site and one-third to non-fee management (see Appendix III). Another managerial decision would conclude that West Chicago Creek could be managed as a non-fee site for the first 2 years and a fee campground for the last 3 years of the first time period.

This solution lies within budget constraints but caution must be



expressed against continually deferring rehabilitation work in campgrounds. There were 28 toilets constructed in the mid-1960's which utilized steel vaults. These vaults are now starting to leak and need replacement. Many of the older water systems are subject to imminent failure. Should this happen, the site would no longer qualify for concessionaire operation or meet L&WCF designation criteria. This process presents a clear picture that budgets are not large enough to afford prudent replacement of capital investments. At some time in the future, widespread facility failure and obsolescence will inevitably occur.



## CHAPTER V

### SUMMARY AND CONCLUSIONS

Smaller budgets and continued inflation, along with a variety of campground management practices, each with its own costs and potential returns, poses a challenge to recreation managers. They must be able to answer the question of how to achieve the optimum mix of campground management practices at the least annual net cost.

One way to approach these multi-faceted problems is with linear programming. A mathematical model can be constrained in an integer mode to provide optimal solutions for campground management where the objective function is to minimize annual net cost.

#### SUMMARY OF PROCEDURES

There were six alternative management practices that were examined in this study. These practices were composed of traditional Forest Service management as fee or non-fee sites, concessionaire operation, and a closure program. The remaining two options involved construction of water systems and then managed as either a Forest Service fee site or operated by a concessionaire.

Campgrounds were stratified according to specific criteria. The



stratification placed 21 campgrounds in the L&WCF fee site group. Fourteen campgrounds in this category also qualify as potential concessionaire sites. There are 35 campgrounds that are listed as meeting the non-fee site grouping. Of this, 18 may be closed and an additional 5 campgrounds considered for concessionaire operation following water system construction. The remaining 12 campgrounds may be managed as non-fee sites or undergo water system construction and become L&WCF fee sites.

Costs are one of the primary elements upon which decisions are based. These values can be taken from RIM records for operation and maintenance, rehabilitation, and water system construction. Estimates were derived for administration of Granger-Thye permits and closure costs taken from engineering estimates.

Potential fee returns are based on L&WCF user fees and potential returns from concessionaire permits under the Granger-Thye Act. User fee returns are based upon past occupancy and compliance rates from the 21 fee sites on the Forest. Granger-Thye permit fees are based upon 6 percent of the value of campground facilities and  $4\frac{1}{2}$  percent land use fee.

Finally, a series of constraints were developed to provide limits to the model so that one decision variable is identified over another in the solution.



## CONCLUSION

Based upon the findings of this study, linear programming can be a valuable tool for analyzing multiple problems in recreation management. The conclusion presented for 56 campgrounds on the Arapaho and Roosevelt National Forests was to manage 14 campgrounds by concessionaire operation, close 18 sites, manage 12 non-fee campgrounds, operate 7 campgrounds as L&WCF fee sites, and construct water systems in 5 campgrounds identified for potential concessionaire operation. Table 9 illustrates the optimal management practices, interim management, and time period of implementation.

## IMPLICATIONS

There were several observations made during the course of this study that were subsidiary to the purpose but are important in future management of campgrounds. They can be categorized in three general subject areas: (1) direct management, (2) legislative initiatives, and (3) implications on Forest Land Use Plan direction.

Direct management actions include increasing the length of fee season to that shown as the recommended season for each campground in Appendix I. This generally focuses upon a 119-day period between May 20 and September 15. Assuming the average occupancy and compliance date remained the same as in 1981, revenue would increase from \$192,262 to \$236,580. Gates need to be installed on all fee sites and closed when a



TABLE 9

## Optimal Campground Management Practices

<u>Campground Name</u>	<u>Current Management Practice</u>	<u>Recommended Management Practice</u>	<u>Time Period Implemented</u>	<u>Interim Management</u>
Stillwater	FS fee	Concession	1	
Cutthroat Bay	FS non-fee	Add water concession	1	
Arapaho Bay	FS fee	Concession	1	
Willow Creek	FS fee	Concession	1	
Green Ridge	FS fee	Concession	1	
Kelly Dahl	FS fee	Concession	2	FS fee
Cold Springs	FS fee	Concession	2	FS fee
Mountain Park	FS fee	Concession	2	FS fee
Ansel Watrous	FS fee	Concession	2	FS fee
Kelly Flats	FS fee	Concession	2	FS fee
Dowdy Lake South	FS fee	Concession	2	FS fee
West Lake	FS fee	Concession	2	FS fee
Bellaire Lake	FS fee	Concession	2	FS fee
Dowdy Lake West	FS fee	Concession	2	FS fee
Olive Ridge	FS fee	Concession	2	FS fee
Camp Dick	FS non-fee	Add water concession	2	FS non-fee
Peaceful Valley	FS non-fee	Add water concession	2	FS non-fee
Tunnel (R.F.)	FS non-fee	Add water concession	2	FS non-fee
Chambers Lake	FS non-fee	Add water concession	2	FS non-fee
Narrows Coop	FS non-fee	Close	1	
Tom Bennett	FS non-fee	Close	1	
Clear Lake	FS non-fee	Close	1	
Skyline	FS non-fee	Close	1	
Eggars	FS non-fee	Close	1	
Upper Landing	FS non-fee	Close	1	



Table 9 (continued)

<u>Campground Name</u>	<u>Current Management Practice</u>	<u>Recommended Management Practice</u>	<u>Time Period Implemented</u>	<u>Interim Management</u>
Stove Prairie Landing	FS non-fee	Close	1	
Tunnel (E.P.)	FS non-fee	Close	1	
Stevens Gulch	FS non-fee	Close	1	
Big South	FS non-fee	Close	1	
Byers	FS non-fee	Close	1	
Meadow Creek	FS non-fee	Close	1	
Aspen Glen	FS non-fee	Close	1	
Grand View	FS non-fee	Close	1	
Sawmill Gulch	FS non-fee	Close	2	FS non-fee
Tabernash	FS non-fee	Close	1	
Mishawaka	FS non-fee	Close	1	
Indian Meadows	FS non-fee	Close	1	
Idlewild	FS non-fee	FS non-fee	1	
Robbers Roost	FS non-fee	FS non-fee	1	
St. Louis Creek	FS non-fee	FS non-fee	1	
Denver Creek	FS non-fee	FS non-fee	1	
Creedmore Lake	FS non-fee	FS non-fee	1	
North Fork Poudre	FS non-fee	FS non-fee	1	
Long Draw	FS non-fee	FS non-fee	1	
Big Bend	FS non-fee	FS non-fee	1	
Buckhorn Canyon	FS non-fee	FS non-fee	1	
Browns Park	FS non-fee	FS non-fee	1	
Rainbow Lakes	FS non-fee	FS non-fee	1	
Guanella Pass	FS non-fee	FS non-fee	1	
Pawnee	FS fee	FS fee	2	FS non-fee
Mizpah	FS fee	FS fee	2	FS non-fee
West Chicago Creek	FS fee	FS fee	1	2 years FS non-fee, 3 years FS fee
Echo Lake	FS fee	FS fee	2	FS non-fee
Columbine	FS fee	FS fee	2	FS non-fee
Sleeping Elephant	FS fee	FS fee	1	
Crow Valley	FS fee	FS fee	1	



fee is not being charged. Fee compliance needs improvement. Compliance Forest-wide in 1981 was 68 percent, or stated another way, almost one-third of user fee returns are lost. Monitoring compliance on just weekends and holidays would account for 31 percent of the days in the fee season, days on which highest occupancy takes place. It is estimated that monitoring these days would achieve compliance from 52 percent of the users. Little more effort on selected sites during weekdays plus those who normally pay their camping fees should achieve a compliance rate in excess of 68 percent.

Changes in both the Land and Water Conservation Fund Act and the Granger Thye Act would facilitate management of campgrounds under these acts. The L&WCF should be changed to allow user fees to be charged in all campgrounds rather than just those having potable water. A differential pricing process can be applied to determine equitable fees for the facilities available at any one campground. The Granger-Thye Act should be changed to allow a percentage other than 6 percent to be charged for the replacement value of improvements. Also, latitude to use funds derived for improvements to the campground as well as maintenance would be in order.

The Draft Forest Land Use Plan for the Arapaho and Roosevelt National Forests identifies an additional 6,000 PAOT capacity is needed by 1990 to meet projected demand. Solutions derived by this process to manage campgrounds within expected budgets calls for closure of 615 PAOT capacity, resulting in a departure of 6,615 PAOT by 1990. Resolution of



this departure appears to make a clear case for private sector investments to meet demand. The Forest should identify campgrounds needing construction and advertise by prospectus for concessionaire construction and operation.

#### RECOMMENDATIONS

It is recommended that a standardized linear program software package be incorporated with the RIM system of Special Reports to aid managers in selecting appropriate campground management practices.

It is further recommended that steps be taken to implement the schedule of management practices illustrated in the optimal solution. It is anticipated that there may be some resistance to the option of concessionaire management of campgrounds and a campground closure program, but if the Forest continues to face limited budgets with no decrease in demand, the solution appears clear.



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APPENDIX I  
CAMPGROUND DATA SHEETS



RIM Record

Campground Pawnee  
District Boulder  
Current Management  
Fee \$5  
Non-Fee

Units	<u>69</u>
Unit Days	<u>6072</u>
Recommended Season	<u>6/20-9/15</u>
Number of Days	<u>88</u>
Recommended Fee	<u>\$5</u>

PAOT Capacity 345  
Managed Season 6/20-10/15  
Fees Collected \$13,363  
RVD Use 71,300

[illegible]



RIM Record

Campground Kelly Dahl  
District Boulder  
Current Management  
Fee \$5  
Non-Fee \_\_\_\_\_

Units	<u>41</u>
Unit Days	<u>5593</u>
Recommended Season	5/20-9/15
Number of Days	<u>119</u>
Recommended Fee	<u>\$5</u>

PAOT Capacity 235  
Managed Season 5/1-10/31  
Fees Collected \$6,196  
RVD Use 41,400

[illegible]



RIM Record

Campground Olive Ridge  
District Boulder  
Current Management \_\_\_\_\_  
Fee \$5  
Non-Fee \_\_\_\_\_

Units	56
Unit Days	6,664
Recommended Season	5/20-9/13
Number of Days	119
Recommended Fee	\$5

PAOT Capacity 280  
Managed Season 5/1 - 10/31  
Fees Collected \$13,562  
RVD Use 66,300

[illegible]



RIM Record

Campground Hippah  
District Clear Creek  
Current Management \_\_\_\_\_  
Fee \$4  
Non-Fee \_\_\_\_\_

Units	<u>11</u>
Unit Days	<u>1,111</u>
Recommended Season	<u>6/1-9/18</u>
Number of Days	<u>107</u>
Recommended Fee	<u>          </u>

PAOT Capacity 55  
Managed Season 6/15-9/15  
Fees Collected \$718  
RVD Use 11,200

[illegible]



## RIM Record

Campground West Chicago Creek  
 District Clear Creek  
 Current Management  
 Fee \$4  
 Non-Fee

Units 15  
 Unit Days 1,605  
 Recommended Season 6/1-9/15  
 Number of Days 107  
 Recommended Fee \$4

PAOT Capacity 75  
 Managed Season 6/15-9/15  
 Fees Collected \$2,961  
 RVD Use 16,100

	X1 FS Mgt. L&WCF Fee	X2 Concession Fee	X3 Close	X4 FS Mgt. Non-fee	X5 Concession No Water	X6 FS Mgt. Add Water	X7 Concession Add Water
Annual					NOT CONSIDERED A VIABLE ALTERNATIVE		
O & M Cost	7,166			4,700			
Permit Adm							
Cons Water							
Rehab Cost	69,553			69,553			
Clos Cost			9808				
L&WCF	3,090						
Concession							
One-Time							
Returns							



RIM Record

Campground Cold Springs Units 65 PAOT Capacity 325  
 District Clear Creek Unit Days 7,135 Managed Season 6/1-9/15  
 Current Management Recommended Season 5/20-9/15 Fees Collected \$4,138  
 Fee \$5 Number of Days 119 RVD Use 41,200  
 Non-Fee \$5 Recommended Fee \$5

	X1 FS Mgt. L&WCF Fee	X2 Concession Fee	X3 Close	X4 FS Mgt. Non-fee	X5 Concession No Water	X6 FS Mgt. Add Water	X7 Concession Add Water
Annual					NOT CONSIDERED A VIABLE ALTERNATIVE		
O & M Cost	31,054			20,367			
Permit Adm		1,000					
Cons Water							
Rehab Cost	438,865			438,865			
Clos Cost			48,675				
L&WCF	15,250						
Concession		15,470					
One-Time							
Returns							



RIM Record

Campground Echo Lake  
District Clear Creek  
Current Management  
Fee \$4  
Non-Fee

Units	<u>17</u>
Unit Days	<u>1,810</u>
Recommended Season	<u>6/1 - 9/15</u>
Number of Days	<u>107</u>
Recommended Fee	<u>\$ 4</u>

PAOT Capacity	<u>85</u>
Managed Season	<u>6/1-9/15</u>
Fees Collected	<u>\$465</u>
RVD Use	<u>15,200</u>

[illegible]



RIM Record

Campground Columbine

District Clear Creek

### Current Management

Fee 49

Non-Fee

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 120Managed Season 6/1-2/15

Fees Collected \$1,608

RVD Use 22,100

[illegible]



RIM Record

Campground Mountain Park

District Estes-Poudre

### Current Management

Fee \$5

Non-Fee \_\_\_\_\_

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 275Managed Season 5/20 - 11/20Fees Collected \$13,076

RVD Use 38,000

	X1 FS Mgt. L&WCF Fee	X2 Concession Fee	X3 Close	X4 FS Mgt. Non-fee	X5 Concession No Water	X6 FS Mgt. Add Water	X7 Concession Add Water
Annual							
O & M Cost	26,276			17,234			
Permit Adm		851					
Cons Water							
Rehab Cost	73,100			73,100			
Clos Cost			101,254				
L&WCF	14,530						
Concession		13,197					
One-Time							
Returns							



RIM Record

Campground Angel Waters

Units 19

PAOT Capacity 95

District Estes-Poudre

Unit Days 2546

Managed Season 11-12/31

Current Management

Recommended Season 5/20-9/30

Fees Collected \$3,407

Fee \$5

Number of Days 134

RVD Use 12,600

Non-Fee

Recommended Fee \$5

	X1 FS Mgt. L&WCF Fee	X2 Concession Fee	X3 Close	X4 FS Mgt. Non-fee	X5 Concession No Water	X6 FS Mgt. Add Water	X7 Concession Add Water
Annual					NOT CONSIDERED A VIABLE ALTERNATIVE		
O & M Cost	9,077			5,953			
Permit Adm		294					
Cons Water							
Rehab Cost	60,323			60,323			
Clos Cost			42,211				
L&WCF	5,020						
Concession		4,559					
One-Time							
Returns							



## RIM Record

Campground Sleeping Elephant

Units

151

PAOT Capacity 75

District Essex-Poudre

Unit Days

2,010

Managed Season 5/20-11/20

### Current Management

Recommended Season

5/20-9/30

Fees Collected \$ 2,169

Fee \$1

Number of Days

134

RVD Use 6,000

Non-Fee

Recommended Fee

 $\frac{1}{2}$ 

RVD Use 6,000

[illegible]



RIM Record

Campground Kelly Flats  
District Estes-Road  
Current Management \_\_\_\_\_  
Fee \$5 \_\_\_\_\_  
Non-Fee \_\_\_\_\_

Units	<u>23</u>
Unit Days	<u>3082</u>
Recommended Season	<u>5/20-9/30</u>
Number of Days	<u>134</u>
Recommended Fee	<u>\$5</u>

PAOT Capacity	<u>115</u>
Managed Season	<u>5/20-11/20</u>
Fees Collected	<u>\$6,105</u>
RVD Use	<u>19,000</u>

[illegible]



RIM Record

Campground Crow Valley  
District Pawnee  
Current Management  
Fee \$4  
Non-Fee \_\_\_\_\_

Units	<u>5</u>
Unit Days	<u>670</u>
Recommended Season	5/20-9/30
Number of Days	<u>134</u>
Recommended Fee	\$ <u>4</u>

PAOT Capacity	<u>25</u>
Managed Season	<u>5/1-9/30</u>
Fees Collected	<u>\$465</u>
RVD Use	<u>4,400</u>

[illegible]



RIM Record

Campground Dowdy Lake South Shore Units

District Redfeather

Unit Days

Current Management

Recommended Season  
November - February

Fee \$5

Number of Days  
Remained 15

Recommended Fee

PAOT Capacity 155Managed Season 5/1-11/12

Fees Collected \$8,621

RVD Use 29,900

[illegible]



RIM Record

Campground West Lake  
 District Redgate  
 Current Management  
 Fee \$5  
 Non-Fee

Units 29  
 Unit Days 3,451  
 Recommended Season 5/20-9/15  
 Number of Days 119  
 Recommended Fee \$5

PAOT Capacity 145  
 Managed Season 5/1-11/12  
 Fees Collected \$8,059  
 RVD Use 80,500

	X1 FS Mgt. L&WCF Fee	X2 Concession Fee	X3 Close	X4 FS Mgt. Non-fee	X5 Concession No Water	X6 FS Mgt. Add Water	X7 Concession Add Water
Annual					NOT CONSIDERED A VIABLE ALTERNATIVE		
O & M Cost	13,855			9,087			
Permit Adm		449					
Cons Water							
Rehab Cost	55,561			55,567			
Clos Cost			14,902				
L&WCF	8,605						
Concession		6,901					
One-Time							
Returns							



RIM Record

Campground Bellaire Lake  
District Redfeather  
Current Management \_\_\_\_\_  
Fee \$5  
Non-Fee \_\_\_\_\_

Units	<u>13</u>
Unit Days	<u>1547</u>
Recommended Season	<u>5/20-9/15</u>
Number of Days	<u>119</u>
Recommended Fee	<u>\$5</u>

PAOT Capacity 65  
Managed Season 5/1-11/12  
Fees Collected -  
RVD Use 15,600

[illegible]



RIM Record

Campground Doreddy Lake West Shore

Units

24

PAOT Capacity 120

District Redheath

Unit Days

2,856

Managed Season 5/1-11/12

### Current Management

Recommended Season

5/20-9/15

Fees Collected \$6,774

Fee \$5

Number of Days

11c

RVD Use 25.4m

Non-Fee

Recommended Fee

۱۰۰

RVD Use 25,400

[illegible]



RIM Record

Campground Apache Bay  
 District Sequoia  
 Current Management  
 Fee \$5  
 Non-Fee

Units 77  
 Unit Days 9,165  
 Recommended Season 5/20-9/15  
 Number of Days 119  
 Recommended Fee \$5

PAOT Capacity 385  
 Managed Season 6/1-10/15  
 Fees Collected \$20,926  
 RVD Use 33,200

	X1 FS Mgt. L&WCF Fee	X2 Concession Fee	X3 Close	X4 FS Mgt. Non-fee	X5 Concession No Water	X6 FS Mgt. Add Water	X7 Concession Add Water
Annual					NOT CONSIDERED A VIABLE ALTERNATIVE		
O & M Cost	36,788			24,127			
Permit Adm		1,192					
Cons Water							
Rehab Cost	269,308			269,308			
Clos Cost			18,045				
L&WCF	25,775						
Concession		18,327					
One-Time							
Returns							



RIM Record

Campground Willow Creek.

District Sukphum

### Current Management

Fee \$25

Non-Fee

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 175Managed Season 6/1-10/15Fees Collected \$5,347

RVD Use 11,000

[illegible]



## RIM Record

Campground Green Ridge

District Sulphur

### Current Management

Fee ~~16~~ 6

Non-Fee

Units

Unit Days

Recommended Season

Number of Days

Number of Days	Recommended Fee
1-3	\$100
4-6	\$150
7-9	\$200
10-12	\$250
13-15	\$300
16-18	\$350
19-21	\$400
22-24	\$450
25-27	\$500
28-30	\$550
31-33	\$600
34-36	\$650
37-39	\$700
40-42	\$750
43-45	\$800
46-48	\$850
49-51	\$900
52-54	\$950
55-57	\$1,000
58-60	\$1,050
61-63	\$1,100
64-66	\$1,150
67-69	\$1,200
70-72	\$1,250
73-75	\$1,300
76-78	\$1,350
79-81	\$1,400
82-84	\$1,450
85-87	\$1,500
88-90	\$1,550
91-93	\$1,600
94-96	\$1,650
97-99	\$1,700
100-102	\$1,750
103-105	\$1,800
106-108	\$1,850
109-111	\$1,900
112-114	\$1,950
115-117	\$2,000
118-120	\$2,050
121-123	\$2,100
124-126	\$2,150
127-129	\$2,200
130-132	\$2,250
133-135	\$2,300
136-138	\$2,350
139-141	\$2,400
142-144	\$2,450
145-147	\$2,500
148-150	\$2,550
151-153	\$2,600
154-156	\$2,650
157-159	\$2,700
160-162	\$2,750
163-165	\$2,800
166-168	\$2,850
169-171	\$2,900
172-174	\$2,950
175-177	\$3,000
178-180	\$3,050
181-183	\$3,100
184-186	\$3,150
187-189	\$3,200
190-192	\$3,250
193-195	\$3,300
196-198	\$3,350
199-201	\$3,400
202-204	\$3,450
205-207	\$3,500
208-210	\$3,550
211-213	\$3,600
214-216	\$3,650
217-219	\$3,700
220-222	\$3,750
223-225	\$3,800
226-228	\$3,850
229-231	\$3,900
232-234	\$3,950
235-237	\$4,000
238-240	\$4,050
241-243	\$4,100
244-246	\$4,150
247-249	\$4,200
250-252	\$4,250
253-255	\$4,300
256-258	\$4,350
259-261	\$4,400
262-264	\$4,450
265-267	\$4,500
268-270	\$4,550
271-273	\$4,600
274-276	\$4,650
277-279	\$4,700
280-282	\$4,750
283-285	\$4,800
286-288	\$4,850
289-291	\$4,900
292-294	\$4,950
295-297	\$5,000
298-300	\$5,050
301-303	\$5,100
304-306	\$5,150
307-309	\$5,200
310-312	\$5,250
313-315	\$5,300
316-318	\$5,350
319-321	\$5,400
322-324	\$5,450
325-327	\$5,500
328-330	\$5,550
331-333	\$5,600
334-336	\$5,650
337-339	\$5,700
340-342	\$5,750
343-345	\$5,800
346-348	\$5,850
349-351	\$5,900
352-354	\$5,950
355-357	\$6,000
358-360	\$6,050
361-363	\$6,100
364-366	\$6,150
367-369	\$6,200
370-372	\$6,250
373-375	\$6,300
376-378	\$6,350
379-381	\$6,400
382-384	\$6,450
385-387	\$6,500
388-390	\$6,550
391-393	\$6,600
394-396	\$6,650
397-399	\$6,700
400-402	\$6,750
403-4	

PAOT Capacity 415

Managed Season 5/15-10/15

Fees Collected \$35,179

RVD Use 57,200

	X1 FS Mgt. L&WCF Fee	X2 Concession Fee	X3 Close	X4 FS Mgt. Non-fee	X5 Concession No Water	X6 FS Mgt. Add Water	X7 Concession Add Water
O & M Cost	39,654			26,007			
Permit Adm		1285					
Cons Water							
Rehab Cost	1,834,300			1,834,300			
Clos Cost			66,354				
L&WCF	35,824						
Concession		20,199					



## RIM Record

Campground Stillwater

Units

145

PAOT Capacity 725

District Sedgwick

Unit Days

17,255

Managed Season 5/15-10/15

### Current Management

Recommended Season

5/20-9/15

Fees Collected \$38,517

Fee \$6

Number of Days

5119

RVD Use	63,200
---------	--------

Non-Fee

Recommended Fee

9

[illegible]



## RIM Record

Campground Panther Lake  
District Boulder  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>18</u>
Unit Days	<u>1584</u>
Recommended Season	<u>6/20 - 9/15</u>
Number of Days	<u>88</u>
Recommended Fee	<u>\$5</u>

PAOT Capacity 90  
Managed Season 6/20-10/15  
Fees Collected \_\_\_\_\_  
RVD Use 11,800

[illegible]



## R1M Record

Campground Camp Dick  
District Boulder  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>34</u>
Unit Days	<u>4,046</u>
Recommended Season	<u>5/20-9/15</u>
Number of Days	<u>119</u>
Recommended Fee	<u>\$5</u>

PAOT Capacity 170  
Managed Season 5/1 - 10/31  
Fees Collected \_\_\_\_\_  
RVD Use 37,500

[illegible]



## RIM Record

Campground Pinecroft Valley  
District Boulder

### Current Management

Fee \_\_\_\_\_  
Non-Fee           X          

Units 21Unit Days 2,499

Recommended Season 5/20-9/15

Number of Days 119

Recommended Fee \$5

PAOT Capacity 105Managed Season 5/1-10/31

Fees Collected \_\_\_\_\_

RVD Use	<u>20,300</u>
---------	---------------

[illegible]



## RIM Record

Campground Granella Pass

District Clear Creek

### Current Management

Free

Non-Fee	<u>X</u>
---------	----------

Units

Unit Days

Recommended Season 6/15-9/15

Number of Days

Recommended Fee \$4

PAOT Capacity 45

Managed Season 6/15-9/15

Fees Collected \_\_\_\_\_

RVD Use	15,200
---------	--------

[illegible]



## RIM Record

Campground Clean Lake

District Clear Creek

### Current Management

Fee

Non-Fee

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 40

Managed Season 6/15-9/15

Fees Collected

RVD Use

[illegible]



Campground <u>Tom Bennett</u>	Units <u>7</u>	PAOT Capacity <u>35</u>
District <u>Esler-Poudre</u>	Unit Days <u>833</u>	Managed Season <u>5/20-10/20</u>
Current Management	Recommended Season <u>5/20-9/15</u>	Fees Collected
Fee	Number of Days <u>119</u>	RVD Use
Non-Fee <u>X</u>	Recommended Fee <u>\$4</u>	<u>6,100</u>

[illegible]



## R1M Record

Campground Mishawaka

District Essex - Bowditch

### Current Management

Fee

Non-Fee X

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 15Managed Season 11-12/31

Fees Collected

FEES Collected	<u>                    </u>
RVD Use	1,700

[illegible]



RIM Record

Campground Stave Prairie Landing  
District Estes - Boulder

Units

—

PAOT Capacity 35

District Estes-Poudre

Unit Days

938

Managed Season 1/1 - 12/31

## Current Management

Recommended Season 5/20-9/30

Fees Collected

Fee \_\_\_\_\_

Number of Days

RVD Use

Non-Fee           X          

Recommended Fee

RVD Use 3,100

[illegible]



## R1M Record

Campground Upper Sandung  
District Ester-Bondie  
Current Management  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>6</u>
Unit Days	<u>804</u>
Recommended Season	<u>5/20-9/30</u>
Number of Days	<u>134</u>
Recommended Fee	<u>\$ 4</u>

PAOT Capacity	<u>30</u>
Managed Season	<u>11-12/31</u>
Fees Collected	<u>          </u>
RVD Use	<u>1,500</u>

[illegible]



RIM Record

Campground Narrows Camp  
District Estes-Roadie  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>12</u>
Unit Days	<u>1,608</u>
Recommended Season	<u>5/20-9/30</u>
Number of Days	<u>134</u>
Recommended Fee	<u>\$4</u>

PAOT Capacity	<u>60</u>
Managed Season	<u>11-12/31</u>
Fees Collected	<u></u>
RVD Use	<u>2,400</u>

[illegible]



RIM Record

Campground Eggs  
District Estes-Rochester  
Current Management  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>4</u>
Unit Days	<u>536</u>
Recommended Season	<u>5/20-9/30</u>
Number of Days	<u>134</u>
Recommended Fee	<u>\$4</u>

PAOT Capacity	<u>20</u>
Managed Season	<u>1/1 - 12/31</u>
Fees Collected	<u>          </u>
RVD Use	<u>2,200</u>

[illegible]



RIM Record

Campground Indian Meadows

Units

3.

PAOT Capacity 15

District Estes-Poudre

Unit Days

402

Managed Season 11-12/31

### Current Management

Recommended Season

5/20-9/30

Fees Collected

Fee

Number of Days

139

RVD Use

Non-Fee X

Recommended Fee

14

RVD USE 1,500

[illegible]



RIM Record

Campground Big Bend  
District Estes-Poudre  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>12</u>
Unit Days	<u>1,608</u>
Recommended Season	<u>5/20-9/30</u>
Number of Days	<u>139</u>
Recommended Fee	<u>\$9</u>

PAOT Capacity 600  
Managed Season 1/1 - 12/31  
Fees Collected \_\_\_\_\_  
RVD Use 6,400

[illegible]



RIM Record

Campground Tunnel  
District Estes-Poudre  
Current Management  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>4</u>
Unit Days	<u>476</u>
Recommended Season	<u>5/20-9/15</u>
Number of Days	<u>119</u>
Recommended Fee	<u>\$4</u>

PAOT Capacity 20  
Managed Season 11-12/31  
Fees Collected \_\_\_\_\_  
RVD Use 1,100

[illegible]



## RIM Record

Campground Buckhorn Canyon

District Estes - Powder

### Current Management

Free

Non-Fee

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity

Managed Season

Fees Collected

RVD Use

[illegible]



## RIM Record

Campground Stevens Gulch

District Esté - Roule

### Current Management

Fee

Non-Fee	<u>X</u>
---------	----------

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 35

Managed Season 11-12/31

Fees Collected

RVD Use	2,600
---------	-------

[illegible]



RIM Record

Campground Chambers Lake

District Rodfather

### Current Management

Fee

Non-Fee X

Units

57

Unit Days

6,183

Recommended Season

5/20-9/15

Number of Days

119

Recommended Fee

\$5

PAOT Capacity

285

Managed Season

5/15-11/12

Fees Collected

RVD Use

51,700

[illegible]



RIM Record

Campground Browns Park

District Red Feather

### Current Management

Free

Non-Fee

---

X

Units

Unit Days

Recommended Season

Number of Days  
Remaining 15

Recommended Fee

PAOT Capacity 140

Managed Season 5/15-11/12

Fees Collected

RVD Use

17,300

[illegible]



RIM Record

Campground Skyline  
District Redfeather  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	8
Unit Days	952
Recommended Season	5/20-9/15
Number of Days	119
Recommended Fee	\$5

PAOT Capacity	<u>40</u>
Managed Season	<u>5/15-11/12</u>
Fees Collected	<u></u>
RVD Use	<u>6,100</u>

[illegible]



RIM Record

Campground Tunnel  
District Redfeather  
Current Management  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>49</u>
Unit Days	<u>5,831</u>
Recommended Season	<u>5/20-9/15</u>
Number of Days	<u>119</u>
Recommended Fee	<u>\$5</u>

PAOT Capacity 245  
Managed Season 5/15-11/12  
Fees Collected \_\_\_\_\_  
RVD Use 37,100

[illegible]



RIM Record

Campground Big South  
District Reddickville  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>4</u>
Unit Days	<u>476</u>
Recommended Season	5/20 - 9/15
Number of Days	<u>119</u>
Recommended Fee	<u>\$4</u>

PAOT Capacity 20  
Managed Season 5/15-11/12  
Fees Collected \_\_\_\_\_  
RVD Use 4,400

[illegible]



RIM Record

Campground Need more lake

District Redjathu

### Current Management

Fee

Non-Fee   X  

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity

Managed Season

Fees Collected

RVD Use

[illegible]



RIM Record

Campground North Fork Poudre  
District Rocky Mtn  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X \_\_\_\_\_

Units	9
Unit Days	1,071
Recommended Season	5/209/11
Number of Days	119
Recommended Fee	\$4

PAOT Capacity 45  
Managed Season 6/1-11/12  
Fees Collected \_\_\_\_\_  
RVD Use 17,100

[illegible]



## RIM Record

Campground Long Draw

District Redd cathe

### Current Management

Fee

Non-Fee

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity

Managed Season

Fees Collected

RVD Use

[illegible]



## RIM Record

Campground Grandview

District Redfeather

### Current Management

Fee \_\_\_\_\_

Non-Fee X

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 30Managed Season 6/15-9/30

Fees Collected

FEES Collected	
RVD Use	2,200

[illegible]



RIM Record

Campground Aspen Glen  
District Red Feather  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	8
Unit Days	952
Recommended Season	5/20-9/15
Number of Days	119
Recommended Fee	\$4

PAOT Capacity	<u>40</u>
Managed Season	<u>5/15 - 11/12</u>
Fees Collected	<u></u>
RVD Use	<u>9,500</u>

[illegible]



RIM Record

Campground Meadow Creek

District Sedgely

### Current Management

Free

Non-Fee

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 25

Managed Season 6/1-10/15

Fees Collected \_\_\_\_\_

RVD Use 3,300

[illegible]



## RIM Record

Campground Tabernash

District Sulphur

### Current Management

Fee

Non-Fee X

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 100

Managed Season 6/1-11/15

Fees Collected

RVD Use	12,200
---------	--------

[illegible]



RIM Record

Campground Byers Creek.

District Sulphur

### Current Management

Fee \_\_\_\_\_

Non-Fee X

Units

Unit Days

Recommended Season 6/15-9/15

Number of Days

Recommended Fee

PAOT Capacity 30Managed Season 6/20-9/15

Fees Collected

RVD Use 9,400

[illegible]



## RIM Record

Campground Shelwild

District Sulphur

### Current Management

Fee

Non-Fee X

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 120

Managed Season 6/10-9/15

Fees Collected

RVD Use 10,600

[illegible]



RIM Record

Campground Robbers Roost  
District Sulphur  
Current Management \_\_\_\_\_  
Fee \_\_\_\_\_  
Non-Fee X

Units	<u>9</u>
Unit Days	<u>792</u>
Recommended Season	<u>6/20-9/15</u>
Number of Days	<u>88</u>
Recommended Fee	<u>\$ 9</u>

PAOT Capacity 45  
Managed Season 6/20-9/15  
Fees Collected \_\_\_\_\_  
RVD Use 5,200

[illegible]



RIM Record

Campground St. Louis Creek

District Sulphur

### Current Management

Fee

Non-Fee

Units

Unit Days

Recommended Season 6/15-9/15

Number of Days

Recommended Fee

PAOT Capacity 90

Managed Season 6/15-9/15

Fees Collected \_\_\_\_\_

RVD Use 14,200

[illegible]



RIM Record

Campground Danvers Lake

District Sculphum

### Current Management

Free

Non-Fee ☒

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

22

2,354

6/1 - 9/1/18

107

14

PAOT Capacity 110

Managed Season 6/10-9/15

Fees Collected

RVD Use

8,300

[illegible]



## RIM Record

Campground Sawmill Gulch

Units

157

PAOT Capacity 25District Sedgely

Unit Days

535

Managed Season 6/10-10/20

### Current Management

Recommended Season 6/1-9/15

Fees Collected

Non-Fee X

Number of Days

107

RVD Use	6,800
---------	-------

Non-Fee X

Recommended Fee

4

[illegible]



RIM Record

Campground Cutthroat Bay

District Saltghur

### Current Management

Fee \_\_\_\_\_  
Non-Fee X

Units

Unit Days

Recommended Season

Number of Days

Recommended Fee

PAOT Capacity 100

Managed Season 6/1-10/15

Fees Collected

RVD Use 14,600

[illegible]



APPENDIX II  
RIM FACILITY CONDITION RECORD  
FORM 2300-6







## APPENDIX III

### ALLOCATION

Below are instructions for interpreting the coding found on the following computer printout sheets:

Campgrounds are listed by name under the heading, Analysis Area.

Current management practices are shown under the Condition Class heading.

Under the Management Intensity heading are the management practices selected by the model.

The time period during which a practice is implemented is found under the Period heading.

Management Practices are coded:

- X1 Forest Service Management with L&WCF fee
- X2 Concessionaire operation
- X3 Campground closure
- X4 Forest Service non-fee management
- X6 Water system constructed and managed under Forest Service fee system
- X7 Water system constructed with concessionaire operation



(LPCOLS)

## ANALYSIS AREA ACREAGE

RW PAGE 8

PRSC NUMB	LEVEL1	LEVEL2	LEVEL3	WORKING GROUP	LAND CLASS	COND CLASS	LAND TYPE	AGE	MANAGEMENT EMPHASIS	MANAGEMENT INTENSITY	PERIOD IMPL /HAR	AREA		
ANALYSIS AREA 1														
1	STILLW	ALL	L2	ALL	L3	ALL	ALL	X1	S	1	ALL	X2	1	1.000
ANALYSIS AREA TOTAL												1.000		
ANALYSIS AREA 2														
2	CUT BY	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X7	1	1.000
ANALYSIS AREA TOTAL												1.000		
ANALYSIS AREA 3														
3	ARAP B	ALL	L2	ALL	L3	ALL	ALL	X1	S	1	ALL	X2	1	1.000
ANALYSIS AREA TOTAL												1.000		
ANALYSIS AREA 4														
4	WILCRK	ALL	L2	ALL	L3	ALL	ALL	X1	S	1	ALL	X2	1	1.000
ANALYSIS AREA TOTAL												1.000		
ANALYSIS AREA 5														
5	GRN RG	ALL	L2	ALL	L3	ALL	ALL	X1	S	1	ALL	X2	1	1.000
ANALYSIS AREA TOTAL												1.000		
ANALYSIS AREA 6														
6	KELDAL	ALL	L2	ALL	L3	ALL	ALL	X1	S	1	ALL	X2	2	1.000
ANALYSIS AREA TOTAL												1.000		
ANALYSIS AREA 7														
7	COLD S	ALL	L2	ALL	L3	ALL	ALL	X1	S	1	ALL	X2	2	1.000
ANALYSIS AREA TOTAL												1.000		
ANALYSIS AREA 8														
8	MTN PK	ALL	L2	ALL	L3	ALL	ALL	X1	S	1	ALL	X2	2	1.000



(LPCOLS)

## ANALYSIS AREA ACREAGE

RW PAGE 9

PRSC NUMB	LEVEL1	LEVEL2	LEVEL3	WORKING GROUP	LAND CLASS	COND CLASS	LAND TYPE	AGE	MANAGEMENT EMPHASIS	MANAGEMENT INTENSITY	PERIOD IMPL /HAR	AREA	
ANALYSIS AREA 9												ANALYSIS AREA TOTAL	1.000
9	AUSL	W	ALL	L2 ALL L3 ALL	ALL	X1	S	1	ALL	X2	2	1.000	
ANALYSIS AREA 10												ANALYSIS AREA TOTAL	1.000
10	KEL	FL	ALL	L2 ALL L3 ALL	ALL	X1	S	1	ALL	X2	2	1.000	
ANALYSIS AREA 11												ANALYSIS AREA TOTAL	1.000
11	DOWD	S	ALL	L2 ALL L3 ALL	ALL	X1	S	1	ALL	X2	2	1.000	
ANALYSIS AREA 12												ANALYSIS AREA TOTAL	1.000
12	WEST	L	ALL	L2 ALL L3 ALL	ALL	X1	S	1	ALL	X2	2	1.000	
ANALYSIS AREA 13												ANALYSIS AREA TOTAL	1.000
13	BELAIR	ALL	L2 ALL L3 ALL	ALL	ALL	X1	S	1	ALL	X2	2	1.000	
ANALYSIS AREA 14												ANALYSIS AREA TOTAL	1.000
14	DOWD	W	ALL	L2 ALL L3 ALL	ALL	X1	S	1	ALL	X2	2	1.000	
ANALYSIS AREA 15												ANALYSIS AREA TOTAL	1.000
15	OLIVE	ALL	L2 ALL L3 ALL	ALL	ALL	X1	S	1	ALL	X2	2	1.000	
ANALYSIS AREA 16												ANALYSIS AREA TOTAL	1.000
16	CMP	DK	ALL	L2 ALL L3 ALL	ALL	X4	S	1	ALL	X7	2	1.000	



(LPCOLS)

## ANALYSIS AREA ACREAGE

RW PAGE 10

PRSC NUMB	LEVEL1	LEVEL2	LEVEL3	WORKING GROUP	LAND CLASS	COND CLASS	LAND TYPE	AGE	MANAGEMENT EMPHASIS	MANAGEMENT INTENSITY	PERIOD IMPL /HAR	AREA		
ANALYSIS AREA 17												ANALYSIS AREA TOTAL	1.000	
17	PEACE	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X7	2	1.000
ANALYSIS AREA 18												ANALYSIS AREA TOTAL	1.000	
18	TUN RF	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X7	2	1.000
ANALYSIS AREA 19												ANALYSIS AREA TOTAL	1.000	
19	CHAM L	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X7	2	1.000
ANALYSIS AREA 20												ANALYSIS AREA TOTAL	1.000	
20	NARRWS	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 21												ANALYSIS AREA TOTAL	1.000	
21	TOMBEN	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 22												ANALYSIS AREA TOTAL	1.000	
22	CLEARL	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 23												ANALYSIS AREA TOTAL	1.000	
23	SKYLN	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 24												ANALYSIS AREA TOTAL	1.000	
24	EGGARS	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000



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## ANALYSIS AREA ACREAGE

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PRSC NUMB	LEVEL1	LEVEL2	LEVEL3	WORKING GROUP	LAND CLASS	COND CLASS	LAND TYPE	AGE	MANAGEMENT EMPHASIS	MANAGEMENT INTENSITY	PERIOD IMPL /HAR	AREA	
ANALYSIS AREA 25												ANALYSIS AREA TOTAL	1.000
25	UP LND	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	
ANALYSIS AREA 26												ANALYSIS AREA TOTAL	1.000
26	STOV P	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	
ANALYSIS AREA 27												ANALYSIS AREA TOTAL	1.000
27	TUN EP	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	
ANALYSIS AREA 28												ANALYSIS AREA TOTAL	1.000
28	STEVEG	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	
ANALYSIS AREA 29												ANALYSIS AREA TOTAL	1.000
29	BIG SD	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	
ANALYSIS AREA 30												ANALYSIS AREA TOTAL	1.000
30	BYERS	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	
ANALYSIS AREA 31												ANALYSIS AREA TOTAL	1.000
31	MDWCRK	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	
ANALYSIS AREA 32												ANALYSIS AREA TOTAL	1.000
32	ASP GL	ALL L2	ALL L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000	



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## ANALYSIS AREA ACREAGE

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PRSC NUMB	LEVEL1	LEVEL2	LEVEL3	WORKING GROUP	LAND CLASS	COND CLASS	LAND TYPE	AGE	MANAGEMENT EMPHASIS	MANAGEMENT INTENSITY	PERIOD IMPL /HAR	AREA			
ANALYSIS AREA 33												ANALYSIS AREA TOTAL	1.000		
33	GRND	V	ALL	L2	ALL	L3	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 34												ANALYSIS AREA TOTAL	1.000		
343	SAWMIL	ALL	L2	ALL	L3	ALL	ALL	ALL	X4	S	1	ALL	X3	2	1.000
ANALYSIS AREA 35												ANALYSIS AREA TOTAL	1.000		
353	TABNSH	ALL	L2	ALL	L3	ALL	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 36												ANALYSIS AREA TOTAL	1.000		
363	MISHKA	ALL	L2	ALL	L3	ALL	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 37												ANALYSIS AREA TOTAL	1.000		
373	INDMDW	ALL	L2	ALL	L3	ALL	ALL	ALL	X4	S	1	ALL	X3	1	1.000
ANALYSIS AREA 38												ANALYSIS AREA TOTAL	1.000		
384	IDLE	M	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X4	1	1.000
ANALYSIS AREA 39												ANALYSIS AREA TOTAL	1.000		
394	ROB	RT	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X4	1	1.000
ANALYSIS AREA 40												ANALYSIS AREA TOTAL	1.000		
404	STLOUI	ALL	L2	ALL	L3	ALL	ALL	ALL	X4	A	1	ALL	X4	1	1.000



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## ANALYSIS AREA ACREAGE

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PRSC NUMB	LEVEL1	LEVEL2	LEVEL3	WORKING GROUP	LAND CLASS	COND CLASS	LAND TYPE	AGE	MANAGEMENT EMPHASIS	MANAGEMENT INTENSITY	PERIOD IMPL /HAR	AREA		
ANALYSIS AREA 41												ANALYSIS AREA TOTAL	1.000	
414	DENVER	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X4	1	1.000
ANALYSIS AREA 42												ANALYSIS AREA TOTAL	1.000	
426	CRDMOR	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X6	2	1.000
ANALYSIS AREA 43												ANALYSIS AREA TOTAL	1.000	
434	N FORK	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X4	1	1.000
ANALYSIS AREA 44												ANALYSIS AREA TOTAL	1.000	
446	LONG D	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X6	2	1.000
ANALYSIS AREA 45												ANALYSIS AREA TOTAL	1.000	
456	B BEND	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X6	2	1.000
ANALYSIS AREA 46												ANALYSIS AREA TOTAL	1.000	
464	BUKHRN	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X4	1	1.000
ANALYSIS AREA 47												ANALYSIS AREA TOTAL	1.000	
476	BRN PK	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X6	2	1.000
ANALYSIS AREA 48												ANALYSIS AREA TOTAL	1.000	
484	RAINBW	ALL	L2	ALL	L3	ALL	ALL	X4	A	1	ALL	X4	1	1.000



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## ANALYSIS AREA ACREAGE

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PRSC NUMB	LEVEL1	LEVEL2	LEVEL3	WORKING LAND GROUP	LAND CLASS	COND CLASS	LAND TYPE	AGE	MANAGEMENT EMPHASIS	MANAGEMENT INTENSITY	PERIOD IMPL /HAR	AREA	
ANALYSIS AREA 49												ANALYSIS AREA TOTAL	1.000
494	G PASS	ALL L2	ALL L3	ALL	ALL	X4	A	1	ALL	X4	1	1.000	
ANALYSIS AREA 50												ANALYSIS AREA TOTAL	1.000
504	PAWNEE	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X4	1	1.000	
ANALYSIS AREA 51												ANALYSIS AREA TOTAL	1.000
514	GIZPAK	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X4	1	1.000	
ANALYSIS AREA 52												ANALYSIS AREA TOTAL	1.000
521	W CHI	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X1	1	.602	
524	W CHI	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X4	1	.398	
ANALYSIS AREA 53												ANALYSIS AREA TOTAL	1.000
534	ECHO L	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X4	1	1.000	
ANALYSIS AREA 54												ANALYSIS AREA TOTAL	1.000
544	COLBIN	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X4	1	1.000	
ANALYSIS AREA 55												ANALYSIS AREA TOTAL	1.000
551	ELEPHT	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X1	1	1.000	
ANALYSIS AREA 56												ANALYSIS AREA TOTAL	1.000
561	CROW V	ALL L2	ALL L3	ALL	ALL	X1	A	1	ALL	X1	1	1.000	
ANALYSIS AREA TOTAL												1.000	
ACREAGE GRAND TOTAL												56.000	